
On the Formation

 of

Local Collections

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*With the Compliments of
John Robinson*

On the Formation of Local Collections

A Paper read at the Field Meeting of the Andover Natural History Society at "Alderbrook Farm," in Andover, Massachusetts, July the twentieth, nineteen hundred and four, by John Robinson, of the Peabody Museum in Salem.

Gift of
Mr Stephen Wheatland
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FOREWORD

It has been said of the poet Whittier* that, "from the summit (of Powow Hill in Amesbury) the eye can gradually travel over the scene of nearly all of his famous ballads;" nor did Thoreau need to go beyond the confines of Concord to gain inspiration, while the works of Hawthorne which have done the most to make his name famous, and are most often quoted in this the centenary of his birth, have their scenes laid in and their characters drawn from the people of a quiet New England community around Salem and Boston near where he was born and where he longest lived and worked.

Gilbert White wrote his "Natural History of Selborne" more than one hundred years ago. Its scope was restricted to a small district in England and yet it has appeared in more editions and has had more readers than any similar work ever published and another Englishman, Alfred Smee, found sufficient materials in his own garden for the production of a thick, profusely illustrated volume.

*"New England in Letters," by Rufus Rockwell Wilson, New York, A. Wessels Co., 1904, p. 47.

LOCAL COLLECTIONS

In reference to local collections and the study of local natural history, one of our older Essex County botanists* said, at a field meeting of the Essex Institute many years ago, that "the careful study of the flora of a very limited area may well occupy a lifetime while the results would probably be of more value to science than any general work undertaken by the same student."

There is no better presentation of the need of local collections accessible to the public than the article by Prof. Edward S. Morse** entitled "If Public Libraries, why not Public Museums?" In this paper the author points out how many more public libraries there are in this country than museums and how much more difficult it is to establish a museum and properly conduct it than to install and maintain a library. And yet there is no doubt whatever regarding the great and in some cases even the greater educational value of the museum. Referring to museums open to the public he says:—"For New England, the fingers of one hand could almost count them, and for the rest of this great republic, the fingers of the other

*The late Cyrus M. Tracy of Lynn. The quotation was used by the present writer in an earlier paper, but will bear repeating.

**Atlantic Monthly, July, 1893, p. 112-119.

hand would be sufficient to keep tally." And this in contrast to European countries where nearly every large town has its public museum.

Nor have these conditions materially changed since the paper was written in 1893, although new museums have been founded in several of the larger American cities and in some of the smaller ones and in many towns local historical societies have begun museums. Libraries, however, have increased more rapidly than ever before, until it is our boast, here in Massachusetts, that there is not a single inhabitant who has not free access to a public library. It is very desirable, therefore, that attention should be called to the formation of museums.

As art museums and certain specialized museums are usually established by endowment and are placed in the hands of boards of trustees, the museums most likely to be formed or which require consideration at this time are the educational museum of natural history (taken in its widest sense to include mineralogy, geology, archæology and ethnology, as well as the usual branches of zoology and botany), which is generally connected with some school or college, and the local museum illustrating the fauna, flora, etc., of some definite area, usually with political rather than natural boundaries, and nearly always the offspring of a local society or club.

It is hardly necessary here to suggest that the ed-

educational museum should contain well balanced collections, covering all of the departments of science within its scope in due proportions, that it should practically be a condensed encyclopædia illustrated by type specimens. Such a collection should be attractively arranged and well labelled, with copious references to books and papers treating of the specimens it contains or the groups to which they belong. Large special collections should not be merged in a museum of this sort, they should be kept in separate rooms or, better still, in separate buildings. The educational museum may be made equally perfect in its way whether it fills a single small room or occupies a series of large halls, so long as the relative proportions of its departments are rigidly adhered to.

But the museum most likely to be established at the present time is the local museum. The formation of the many local historical societies previously referred to, taken in connection with the increasing interest in the study of plants and birds, and the great demand and consequently the great supply of the so called "nature books," indicates an interest in these subjects which it is hoped will be permanent and lead to the establishment of local museums in every center of population in the country, the smaller as well as the greater. In many cases the local museum must cover both natural and civil history,—minerals, plants, animals, pre-historic remains and

historical relics. The grouping in one museum of these widely different objects seems at first to be inappropriate, but it is perfectly proper and quite possible to carry out.

In forming a local museum, it should be decided at the outset exactly what is to be done,—what ground is to be covered,—and when decided, every temptation to go beyond these limits should be firmly resisted. Local and general collections should never be mixed and the objects in each department should be arranged in different cases or otherwise distinctly separated.

But specimens are nearly always given before the cases to hold them are obtained, in fact, it is usually the gift of a collection, or the offer of one, which suggests the museum and even the formation of the society itself. The president of a well known county society was in the habit of saying that every person who gives a book to a library ought to give a dollar with it to shelve it and keep it in order, a rule which may be applied with equal propriety to the museum specimen as to the book, but a rule impossible to carry out in either case, for the donor usually thinks that he has done enough in giving the object and would feel insulted at the suggestion of a contribution of money to provide for its keeping.

Museum cases are much more expensive than is generally supposed and temporary ones may be hired

or borrowed which will answer the purpose until funds can be raised to obtain permanent cases. Rather than expose delicate objects to dust and injury upon open shelves it is far better to pack them away in drawers and boxes until suitable glass cases can be provided. It is imperative that the cases should have more glass than wood in their construction. A collection comes to mind, housed in heavy, over ornamented, black walnut cases, which were given to an institution by a generous friend,—his own selection. They were so dark and exposed so little surface of glass that the specimens inside could hardly be seen, and yet for the same cost cases might have been built with five times the glass exposure had they been made of painted pine and placed against the wall as fronts simply, the shelves being attached independently to the wall itself. Such cases may be constructed quite economically and are perfectly satisfactory. It is well to have the cases nearly white in color and the room itself as light as possible so long as the blazing sun light is avoided.

The labelling of the specimens is a most important matter, for a collection without labels is of no use whatever. The labels should be amply descriptive, concisely expressed and distinctly written on one sort of paper or card, except for class or general labels, and, if possible, in one sort of hand writing or one style of printing.

With the exception of such bulky specimens as woods, cones and other fruits, the botanical collection is best kept on shelves in tightly closed cupboards. All the dried plants should, of course, be poisoned and mounted on paper of the standard size, in order that one collection may be united with another if required in the future. The birds, to save expense, may, if numerous, be kept as skins in shallow drawers, only one set being stuffed and mounted for public exhibition. Eggs and nests should be placed with the species of birds to which they belong. The mammals must be stuffed and the fishes and reptiles likewise, if possible, for specimens preserved in alcohol and other liquid preparations are troublesome and quite expensive to maintain and only of service to students. They are almost useless for public exhibition because, aside from the distorting effect of the liquid, nearly all lose their original color and change to a dirty white in a few years. The minerals and rocks on exhibition should be reasonably large, characteristic specimens and there should not be so many of one sort as to be confusing.

One of the most difficult collections to care for is the insect collection. Insects are the most numerous of all animals, certain species being altogether too numerous for our comfort,—would that the flies, the mosquitos, the brown-tail and gypsy moths could be kept down to the relative proportions sought in muse-

um collections. The best results for the local museum are gained by collecting only the larger and more interesting insects, enlarging the scope of the collection from time to time. In this way the butterflies and the larger moths, the dragon flies, conspicuous beetles and some other groups may be collected and arranged in tight glass topped boxes of the same size. The various stages in the development of the insect should always be shown if possible by carefully prepared specimens. A very attractive way of exhibiting the butterflies and larger moths has recently been adopted in some museums and in many private collections where each specimen is mounted separately on a white tablet covered with glass, but this is a very expensive method when applied to large collections. The insect collection may easily occupy the entire time and attention of one person and the local society is fortunate if it counts an amateur entomologist among its members.

The museum should always be opened at regular hours on designated days. Nothing is more exasperating to the visitor than to find the doors closed against him after taking much trouble to go, perhaps a long distance, to see the collections, or to be told by a sign, or some person near by, to call at Mr. So-and-so's, half a mile off, to get the key.

It is hardly necessary here to go farther into details of the arrangement of the museum, except to say that

the local collection should contain, so far as possible, a specimen of every native species of rock, plant, animal, etc., together with a typical collection illustrating the pre-historic remains of the aboriginal race of the region. Photographic and other illustrations interspersed among the specimens add greatly to the interest and educational value of the collection.

From the minerals and rocks, which may be considered the foundation of the collection, it is an easy advance through the plants, and animals, to the handiwork of aboriginal man and thence to our own early historic period and the present time ; so that, one finds a perfectly natural sequence of objects from the native rock to the musket our great grandfather carried at the battle of Bunker Hill, and the difficulty of combining natural history collections with those of the local historical society vanishes. With care this combination may be made in an absolutely scientific manner.

One of the greatest difficulties in conducting a museum is in dealing with unsuitable gifts offered by well meaning friends. The lack of appreciation of the fitness of things sometimes displayed by well educated persons is most surprising. Such a person examines the collection, speaks well of what has been done and then announces his intention of adding to the museum a most valuable contribution, an object which until then the donor would never think of

parting with, and of much greater interest than anything in the collection. The donor may be a person of influence in the community and one who has given money generously to furnish the rooms. The gift arrives; it may a fragment of rock from the hill where the witchcraft victims were hanged; a bottle of water from the river Jordan; a bit of polished agate from Arizona with something like the outline of an Indian face in its concentric folds, which you are assured was caught there by the sun's rays as an Indian chief passed by. Although it may be an interesting souvenir of travel to the collector himself, such an object is of no value in a museum, nor can it be classified as scientific or historical and the custodian is at a loss to know what to do with it. He can not afford and does not wish to offend the kindly intentioned donor. What can be done? There is one museum in which a special case is provided for "Recent Accessions" and in this case are placed all gifts as they are received. There all undesirable objects remain until they are forgotten or can be disposed of, while, from time to time, as it may be convenient to rearrange the collections, the desirable ones find their appropriate places in the museum among the groups to which they belong. The establishment of a case for "Recent Accessions" should be among the first things done. There is another advantage in having such a case. A donor is quite

sure to visit the museum within a week or two after sending a gift to see if it has been placed on exhibition, and while it may not have been possible to arrange the collection to give it a suitable place, the "Recent Accession" case can take it in immediately.

There is one class of donors who should receive the greatest consideration,—the children. They come with butterflies, beetles, sea-urchins, shells and flowers and want to know what they are and something about them. About the best work which can be done at the local museum is to encourage children to intelligently observe natural objects. A few reference books may be kept at hand or the children may be taken to the public library and shown a good picture or analytical drawing of the animal or plant and given a short account of it to read, or they may be taken to the shore or fields and assisted to learn the habits of the animal or something about the growth and nature of the plant. All specimens brought to the museum by them should be marked with the donor's name on the card and immediately given a place in the "Recent Accession" case.

Gifts to the collection should always be promptly acknowledged by letters or by filled out blanks which are more convenient. It is surprising what pleasure these acknowledgements give even to older persons, while children show them to their friends with evident pride. In fact everyone appreciates a prompt

response and even the most trivial gift should not be overlooked for it frequently happens, after a few worthless objects have been dutifully acknowledged, that a really valuable addition comes from a person thus encouraged.

An important duty of the local society, through its museum, is to aid in the effort now being made to protect our native birds and preserve our rarer wild flowers. Much may be accomplished in this direction, not only by personal appeal to thoughtless and selfish collectors and by the combined influence of the membership of the society upon them, but the museum collections, if reasonably complete and freely accessible to the public, will in a great measure obviate the necessity and curb the desire for making trivial private collections. Collectors should be encouraged to add new specimens to the museum and the duplication of those already there should be discouraged. Efforts should be made to interest the community in the museum and make everyone feel a personal pride and proprietorship in it. The children, having been interested in the life histories of plants and animals, may be taught to be of great assistance in obtaining desirable objects for the museum and at the same time discouraged from collecting indiscriminately and merely for the purpose of accumulating specimens. The thorough knowledge of a few animals and plants is of far greater benefit to

them than the collecting of masses of specimens of which they know but little.

It may be treading upon dangerous ground and, perhaps, outside the limits of this paper, but in a great majority of instances it seems evident that the inclusion of the making of herbaria in the regular work of our schools, where prizes are frequently given for the largest and best arranged collections of dried plants, is of very questionable desirability.

As a matter of convenience, the botanical instruction is too often assigned to teachers, perhaps excellent in other branches, who have no knowledge of botany and who can not interest the scholars in the subject or aid them in their work. Valuable study hours are wasted, usually just at the close of the school year, and other work neglected. It may be that one hundred small collections of dried plants are made. Individually they are valueless but collectively they represent the up rooting of a great number of native plants, often rare ones, without any gain to the scholar or the school. This work as conducted in most of our schools can not be defended as a necessary part of any educational system, nor does it in any way bring the students into touch with nature or lead to a knowledge of her ways.

A single new species of plant added to the local museum collection would be of more value than the entire mass of school herbaria and a greater honor than to win a prize for the best school collection.

The school garden is a far better way of interesting children in botany. The children may be taught to raise their own specimens and, meanwhile, study the germination, leaf and flower morphology, the methods of fertilization and the insect aids, and the development of the fruit.

The work should, of course, be done under the guidance of a competent instructor who could outline the course for the regular teachers and supervise the instruction in all of the schools of a city or in two or more contiguous towns, as is often done now by special teachers of music and drawing, a method already shown to be successful and economical when applied to the care of the roads in adjoining communities. If a near approach to systematic instruction is impossible, it would be far better to omit botany altogether from the school courses. In some cases botanical and horticultural societies are doing excellent work in this direction and the local natural history society, if it is not possible or desirable to directly conduct classes, may, by its influence, lead the city or town school board into the paths which should be followed. What one horticultural society has done may be learned by reading the reports of the successful work of the children's garden committee of the Massachusetts Horticultural Society in Boston.

Merely pressing and naming plants is not of itself studying botany, it is, literally, the driest part of

plant study and, often, if forced to do this work, the boy or girl becomes disgusted with the whole subject.

A very good way of interesting children in botany, available to city children as well as to those living in the country, is to encourage them to become familiar with the trees growing in the streets, to know their names, their nature, to observe them and to write accounts of them and their varied conditions throughout the year, in winter as well as summer. The herbarium, if one is to be made, might take the form of the life history of a single species. Assign to each boy and girl a different tree, or let groups of children study one together. At the end of the season each little collection should contain the seedling plant with the roots, a branch of leaves, a sheet or more of different forms of leaves, the flower,—of both sorts if there are more than one,—the fruit in its different stages. A specimen of the wood of each tree should accompany the sheets of pressed leaves and flowers showing the grain in section, lengthways and across, together with the bark. Such a collection, if carefully prepared and neatly mounted, would be a valuable accession to any local museum, while the written reports would serve admirably as exercises in English composition. Other groups of children could collect the insects found upon the trees, those which come to fertilize the flowers and those which are the enemies of the trees.

A grave mistake is often made in neglecting to interest young persons in local societies and museums by giving them places of responsibility. As we grow older we are too apt to feel that we alone know best how to conduct the affairs of the society or institution and are loth to give up our hold to others. But even if occasional mistakes are made it is better to let new hands and fresh minds come to the front and before it is too late to engraft the spirit of the founders on the rising generation of workers.—Through the neglect of this important duty many excellent beginnings have later languished and promising local collections have gone to decay or been dispersed.

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